



## Two new species of *Peperomia* Ruiz & Pav. (Piperaceae) from South Western Ghats, India

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### General Note

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### ABSTRACT

Two new species of *Peperomia* (Piperaceae) from South Western Ghats are here described, viz., *P. emarginatifolia* J.Mathew and *P. vellarimalica* J.Mathew & P.M.Salim. Taxonomic descriptions, morphological differences to their allied taxa and colour photographs are provided to facilitate easy identification in the field.

**Keywords:** New species; Taxonomy; Western Ghats

## INTRODUCTION

*Peperomia* is the second species rich genus with nearly 1,700 specific entities in the family Piperaceae and a pantropical distribution (Wanke *et al.* 2006). About 90% members of this genus are mainly concentrated in neotropical regions, followed by Southeast Asia, Africa, Australia, and New Zealand (Wanke *et al.* 2006, Yuncker 1958). Hooker (1886) had enlisted 10 species of *Peperomia* from India and adjacent countries. Later, De Candolle (1923) distinguished eight *Peperomia* from India. According to Sasidharan (2013), seven taxa of *Peperomia* viz., *P. blanda* (Jacq.) Kunth, *P. cochinensis* DC, *P. heyneana* Miq., *P. pellucida* (L.) Kunth., *P. portulacoides* (Lam.) Dietr., *P. tetraphylla* (G.Forst) Hook. & Arn., and *P. thomsonii* Hook.f. have been reported from the Kerala region of the Western Ghats. Recently, Suwanphakdee *et al.* (2017) reinstated another one taxa, *P. dindygulensis* Miq from here and made comments on the doubtful occurrence of *P. blanda* in India. Botanical exploration of the forests of Kerala, during 2011–2016, yielded some interesting specimens of the genus *Peperomia*. Critical analysis of the literature as well as of herbarium specimens revealed that some of the collected specimens do not match any of the previously described species. These specimens are sufficiently distinct to warrant taxonomic recognition as new species and are here described and illustrated here.



**Figure 1**

*Peperomia emarginatifolia* J.Mathew – A&B: Plant twigs. – C & D: Emarginated leaves in succulent stem. – E, F & G: Infructescence

***Peperomia emarginatifolia* J.Mathew, sp. nov. (Fig. 1)**

TYPE: India. Kerala, Thrissur district, Peechi- Vazhani Wildlife Sanctuary, Way to Ponmudy, altitude 1350m a. s. l., 10 July 2013, *J.Mathew 4713* (holotype: MSSRF!-M.S. Swaminathan Research Foundation, Wayanad, India- ; isotype: MSSRF!). – PARATYPE: Same locality, 11 August 2014, *J.Mathew 5847-5849* (MSSRF!).

**Etymology:** The specific epithet '*emarginatifolia*' refers to the emarginated leaf of the new species.

A branched succulent epiphytic herb, prostrate upto 40 cm. Stems thick, round, glabrous, violet to black in colour. Nodes swollen and rooting not forming at nodes; Internodes at length 2–5 cm long, slender, puberulose. Petioles 0.5–1 cm long; cylindrical. Leaves opposite, obcordate and emarginated; lamina coriaceous, thick, ciliate towards apex at young stage, 2.0–4.2 x 1.7–3.3 cm, cuneate to acute at base, apex emarginated, glabrous, upper surface green to olive green, lower surface glaucous, both surfaces are gland-dotted; 3 nerved, all arising from the base or near it, secondary nerves 4–6. Inflorescence a fascicle with 3–4 terminal spikes, erect. Peduncle 1.5–2.5 cm long; glabrous, bracts caduceous. Rachis 6–8 cm long, flowers loose, white to yellow in colour, flower bracts 0.5 mm diam., orbicular, peltate and gland dotted. Fruit globose, 0.8 mm in diam., minutely papillose. Flowering and fruiting June–July.

**Distribution and Habitat:** Found in the montane shola forest ca. 1350m. of the Peechi – Vazhani Wildlife Sanctuary, Western Ghats, India. Grows on the trunks of *Dillenia pentagyna* Roxb. (Bourd.) Gamble in association with the thick mats of bryophytes. *Premna coriacea* var. *coriacea* Gamble, *Belosynapsis vivipara* (Dalzell) C.E.C.Fisch. and *Aeschynanthus perrottetii* A.DC. are the associated epiphytes grown on the host tree trunk. A population of 35 plants was observed at the type locality.

**Notes:** *Peperomia emarginatifolia* is fairly similar to *P. heyneana* Miq., in both vegetative and floral morphology but differs mainly in having : prostrate stem to 40 cm long (vs erect stem to 15 cm long in *P. heyneana*), leaves opposite throughout (vs opposite in base and 4- verticillate on terminal shoot in *P. heyneana*), obcordate and emarginate leaf apex (rounded and entire leaf apex in *P. heyneana*), large olive green colour leaves with size of 2.0–4.2 x 1.7–3.3 cm (vs dark green colour leaves with comparatively smaller leave size of 1.5 – 3.5 x 0.5 – 1.5 cm in *P. heyneana*), inflorescence a fascicle of (3–4) of spikes in terminals (vs inflorescence a solitary spike and a single inflorescence per shoot in *P. heyneana*) and globose fruit (vs ellipsoid to ovoid-oblong fruit in *P. heyneana*).

***Peperomia vellarimalica* J.Mathew & P.M.Salim, sp. nov. (Fig. 2)**

TYPE: India. Kerala, Kozhikode district, Vellarimala, walkway to REC para, altitude 1605 m a. s. l., March 2014, *J.Mathew 4263* (holotype: MSSRF! ; isotype: MSSRF!). – PARATYPE: Same locality, 7 February 2016, *J.Mathew 5927-5930* (MSSRF!).

**Etymology:** The specific epithet '*vellarimalica*' refers to the Vellarimala Hills, of south Western Ghats where the type specimen was collected.

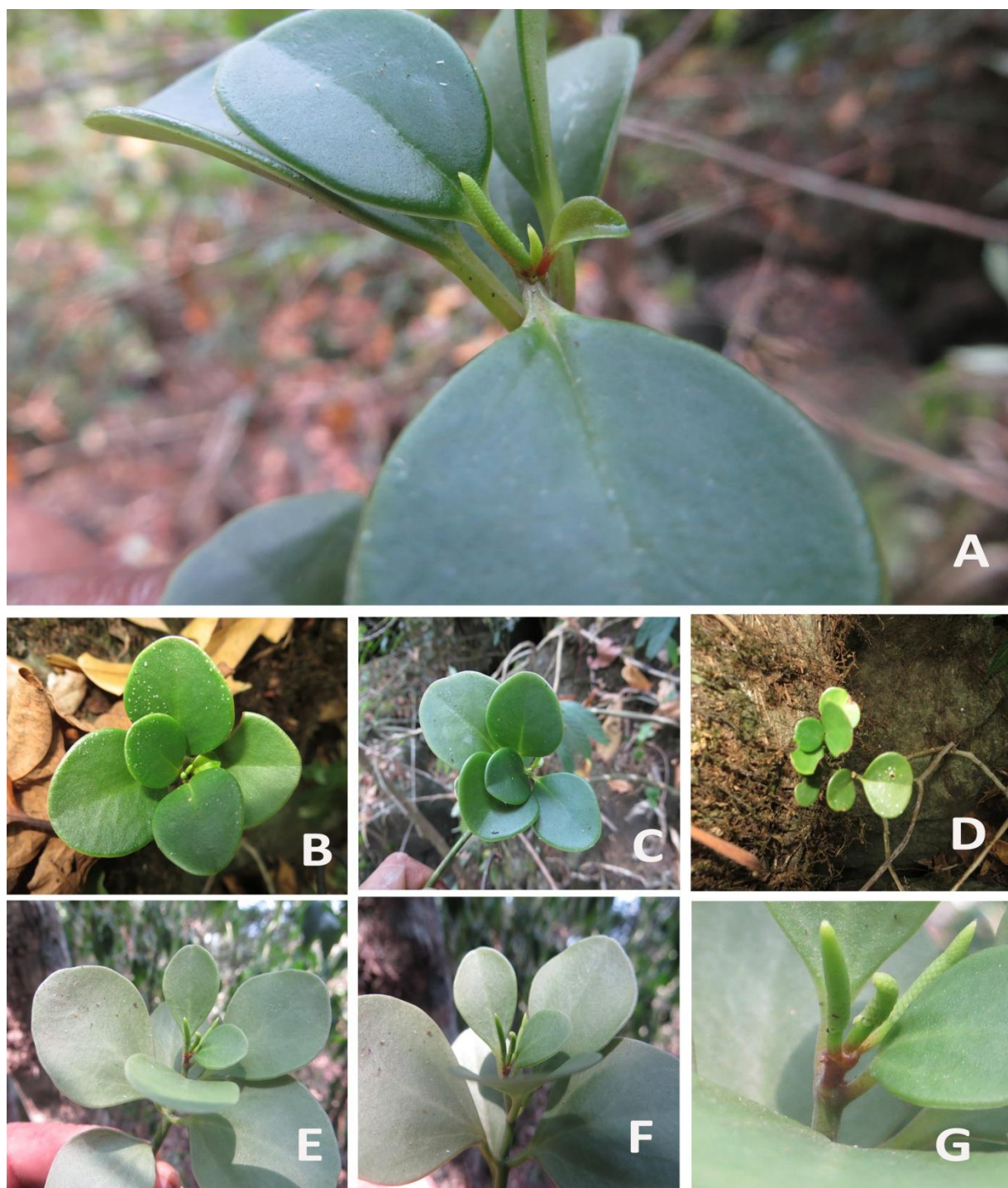
A terrestrial branched, herb. Stem terete, prostrate to 1 m and the terminals of each branch erect to 20 cm, glabrous, rooting at nodes; nodes swollen, young nodes greenish in colour; internodes to 8 cm long, slender, glabrous, green and slightly angular when young, brown and woody with lenticels at maturity. Petioles 0.5–2 cm long; cylindrical, younger petioles have red ting. Leaves opposite, decussate, ovate to broadly ovate or orbiculate; lamina coriaceous, thick, glabrous, 2.2–6 x 1.5–5.1 cm, cuneate to acute at base, apex obtuse, glabrous, upper surface dark green, lower surface glaucous; midvein conspicuous, secondary veins 6–8, slightly conspicuous. Inflorescence a fascicle with 3 spikelets, terminal, erect. Inflorescence peduncle 0.5–0.8 x 0.2 cm, with violet colour, Peduncle 0.9–1.1 cm long; glabrous, bracts caduceous. Rachis short, 2–4.2 cm long, flowers thickly packed, white in colour, flower bracts 0.5 mm diam., orbicular, peltate and gland dotted. Fruit globose, 0.4 mm in diam., minutely papillose. Flowering and fruiting February–March.

**Distribution and habitat:** Found in the semi evergreen forest ca. 1600m in a semi-shaded condition. Common associates are *Euonymus indicus* B.Heyne ex Wall., *Canthium coromandelicum* (Burm.f.) Alston, *Gymnema sylvestre* (Retz.) R.Br. ex Sm. and *Piper trichostachyon* (Miq.) C. A population of 20 plants was observed at the type locality.

**Notes:** *Peperomia vellarimalica* is morphologically similar to *P. obtusifolia* (a widely used ornamental species), especially the leaf shape and younger parts morphology. However, these species can readily distinguish from each other by: a long running, prostrate and terete stem to 1 m long (vs short running and erect and succulent stem to 45 cm in *P. obtusifolia*), opposite leaves (vs alternate



leaves in *P. obtusifolia*) and compound inflorescence with 3 small spikes to 5 cm long (vs inflorescence a single large spike upto 20 cm long in *P. obtusifolia*).



**Figure 2** *Peperomia vellarimalica* J.Mathew & P.M.Salim. – A,B& C: Plant twigs. – D: Long stem and leaves.. – E, F & G: Inflorescence on plant twig.

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**Conflicts of Interest:** The authors declare no conflict of interest.

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